

SCIENCE AND INDUSTRY.

—It is said that the Belgian glass-workers are now preparing to make glass into various shapes and patterns by running sheets of it at just the right temperature to work nicely through steel rollers.

—The question as to what is the exact mechanical equivalent of heat has long puzzled engineers. The latest experiments show that one pound of water raised one degree Fahrenheit, is equal to one pound lifted 769 feet.—*Philadelphia Record*.

—The Pittsburgh *Iron World* says that Pittsburgh steel-makers have established agencies for the sale of the finer grades of steel suitable for making cutlery in Europe, India and Australia. Their sales have been so considerable as to practically guarantee an established trade. Steel has been sold in competition with an English-made article at the same price.

—An investigation as to the height of summer clouds, made in Sweden, under the auspices of the Royal Scientific Society of Upsala, shows that clouds occur most frequently at heights of twenty-three hundred and fifty-five hundred feet. In the summers of 1884 and 1885, the loftiest cloud observed at Upsala was forty-one thousand feet above the earth's surface, or nearly eight miles.—*N. Y. Ledger*.

—During five school years the director of the Royal Deaf-Mute Institution at Copenhagen has made semi-diurnal measurements of the height and weight of the children under his care, and he deduced a number of coincidences between variations in their weight and those in the temperature of the air.—*Arkansas Traveler*.

—The copper mining business has fallen to a very low ebb in Russia. It is reported that out of 1,758 copper mines in the Ural Mountains only twenty-eight are being worked. The decline of the industry is attributed to the destruction of the surrounding forests and the consequent scarcity of fuel, acting in conjunction with great difficulties of transport.

—The bottle industry is a very large one, the number produced per day in the respective countries being estimated as follows: Great Britain and Ireland, 9,306; Sweden, 960; Norway, 600; Denmark, 360; Germany and Belgium, 30,039; Austria, 7,000; France, 100; United States, 840; Canada, 120; Australia, 207; total, 45,432 gross. With 300 working days this gives no fewer than 15,929,000 gross per year.

—A new building material called stone-brick, harder than the hardest clay-brick, is made from simple mortar, but a scientifically made and perfect mortar; in fact, a hydraulic cement, and the grinding together of lime and sand in a dry state—including also some alumina, which is usually present in sand—and the subsequent heating by steam, give the mixture the properties of the burned hydraulic cements at present in use.—*Public Opinion*.

—During August there were 2,000 freight cars required to carry California shipments to the East. The amount carried, in pounds, was 40,000,000, and of that enormous quantity over one-half, 20,500,000 pounds, consisted of green, dried and canned fruit. The railroads carried 10,000,000 pounds of sugar and 5,000,000 pounds of tea. The last article was imported, of course, and transhipped, as was also part of the remainder of the 40,000,000 pounds.—*San Francisco Examiner*.

—The Sierra Nevada range might be called a continuation of the Cascade Mountains; but those are of volcanic origin, and the Sierra Nevada is granite, though traces of volcanic action are often found on the flanks and base. It commences at Mount Shasta, 14,400 feet high, and runs in a southerly direction to Tejon Pass, where it joins the Coast range not far from Mount Whitney, the highest mountain in the United States south of Alaska. There are but few passes over these mountains, and the Pacific slope is very steep, the Central Pacific road descending 6,300 feet in eighty miles.—*Public Opinion*.

Sharpshooters in Mexico.

The victories won by the United States troops in Mexico years ago have generally been ascribed to the superior fighting qualities of the Americans over the Mexicans. But Captain Lester S. Bartlett of the Spencer Rifle Company, who was recently in Mexico, mentioned this theory: "An old Mexican soldier told me that it was the American sharpshooters that broke up their troops. All over Mexico you find what are called arroyos. They are what we would call gulches, and occur everywhere in the plains. They have precipitous banks, and men sometimes walk into them without seeing them. They seem to be the rifts at the bottom of a sea, which one day may have covered the country. The American riflemen would drop into these arroyos, which formed natural rifle-pits for them, and, having superior rifles for those days, were able to pick off the Mexicans before the latter got within shooting distance with their bell-mouth guns. The slaughter that resulted always broke up the Mexicans before they got within fighting distance."—*N. Y. Tribune*.

PUNGENT PARAGRAPHS.

—Some women's memories are strongest on the point of other women's old clothes.

—Be not too brief in conversation, lest you be not understood, nor too diffuse, lest you be troublesome.

—While the lamp holds out to burn there is not much danger of the average servant filling it.—*Harper's Bazar*.

—In love-making it is a less misfortune to fail with the right person than to succeed with the wrong one.—*Life*.

—A baby-carriage on the pavement takes up more room than a buckboard wagon on the prairie.—*Macon Telegraph*.

—The man who wants the earth is in no hurry about the six feet of it that he is most likely to inherit.—*Springfield Union*.

—The wise prove, and the foolish confess, by their conduct, that a life of employment is the only life worth living.—*N. Y. Mail*.

—The man who swore to make his mark in the world has since thought better of it and concluded to learn to write his name.—*Lowell Citizen*.

—It may be all right for a young man to sow his wild oats provided he doesn't sow them on some other man's property.—*Pittsburgh Dispatch*.

—A critic, Mary Ann, is a party who reads your book, your story, or your poem, and then kindly sits down and tells you how he would have written it if he had been you.—*Nashville American*.

—If a young man wants to hit the bull's eye in this world, and make a good record for himself, he must not aim too high. If he simply wants to make a noise he may aim at the clouds.—*N. O. Picayune*.

—O, my!" cried Mrs. Brown: "I've chipped a piece of the old-fashioned plate my poor dear grandmother gave me." "Never mind," consoled old Brown. "Chip a few more pieces off and you'll have a rare bit of bric-a-brac."—*Judge*.

—We not only want to gain knowledge, but we want to use it. A head may be filled with book knowledge unavailable and be like a swamp or stagnant pool. It wants to be made alive like water by running, thinking.

—It is estimated that a mother talks 27,000 words to her child in a day. This is about one per cent. of the number of words spoken to her husband if he comes home at two o'clock in the morning and goes to bed with his boots on.—*Pasadena Union*.

Mightier than the sword.—
Little pens of metal,
Little drops of ink,
Make the tyrant tremble
And the people think.

—Send us the dresses a woman has worn and we can tell you whether her husband is in Canada or not.—*Omaha World*. Send a statement of the restaurant, hotel, wine, billiards, livery, gambling and racing bills of that husband and it can be seen whether they or the needed dresses of an honest wife sent him to Canada.—*N. O. Picayune*.

—Good Minister—"It is rather odd that the collections are exactly one dollar less than they used to be." Minister's Wife—"Nothing odd about it." "We have not lost any of our congregation." "No; but I suppose that you remember that Mr. Pious never used to give less than a dollar." "Of course." "Well, Mr. Pious has been elected a deacon, and he passes the plate now."—*Omaha World*.

EVAPORATING APPLES.

Information Sent Out by the National Department of Agriculture.

In reply to questions sent out by the National Department of Agriculture the following items regarding dried or evaporated apples have been evolved:

Acid apples with white flesh make the best product. In large establishments the apples are prepared for the evaporator by machines which pare, core and slice the apples in one operation. Hand-prepared fruit is not divided into such neat and uniform pieces or rings, hence does not dry as uniformly or present as attractive an appearance. Some of the manufacturers place the apples when they come from the parer into a solution of salt and water, one pint of salt to ten gallons of water. This is thought to cut the gum on the fruit and clean it, also to prevent fermentation and aid in bleaching.

Bleaching is done by exposing the fruit in a wooden box or special machine to the action of sulphur fumes. Apples when cut and exposed to the air discolor quickly, and this bleaching brings back the natural color. The sooner the bleaching is done after the fruit is cut the better. Caution is given against over-bleaching the fruit and causing it both to taste and smell of sulphur.

From different drying establishments come different reports as to the heat of the evaporator. Answers included from ninety-five to over two hundred degrees F. Fresh fruit will stand two hundred and fifty degrees F. without burning. With an evaporator full the fruit must remain in from two to five hours, according to the heat in the evaporator. It is estimated that one bushel of apples will make from five to seven pounds of dried fruit.—*N. Y. World*.

FARM AND FIRESIDE.

—On clay soils poultry-yards may be greatly improved by placing a tile drain two feet below the surface of the yard, and then adding a foot of sand. Treated in this way the rains carry down much of the filth to the drains and save labor.—*Indianapolis Journal*.

—Southern Crackers: Take a cup of risen dough, a tablespoon of white sugar beaten with one egg, mix with the dough, add a tablespoon of butter, two teaspoons of soda dissolved in a cup of cream. Beat half an hour, roll thin, bake in a hot oven.—*Good Cheer*.

—Rice horses are fed on the clean blades of corn fodder in some stables as it is free from dust. The stalk of corn is stripped of its blades by hand, and the blades are then tied into a small bundle, which is hung on the stalk to cure. It never touches the ground, and is consequently free from dirt.—*Troy Times*.

—Flour is like butter, it absorbs smells readily. It should not be kept in a place where there are onions, fish, decaying vegetables, or other odorous substances, or in a damp room or cellar. Keep it in a cool, dry, airy room, not exposed to a freezing temperature, or to one above seventy degrees, and always sift before using.—*Boston Budget*.

—Potato Balls: Boil some potatoes very dry; mash them as smoothly as possible, season well with salt and pepper, warm them with an ounce of butter to every pound of potatoes and a few spoonfuls of good cream; let them cool a little, roll them into balls, sprinkle over them some crushed vermicelli or macaroni and fry them a light brown.—*Exchange*.

—Although plaster is an excellent absorbent of ammonia, yet it is not equal to sulphate of potash (kainit), as the latter is more soluble and also more easily broken up from its combinations, thus enabling it more readily to unite with ammonia (thereby forming sulphates) and preventing its escape.—*St. Louis Republican*.

—Tea Cakes: One dozen eggs, one pound of butter, one pound of sugar, one pound and a half of flour, one-half ounce of nutmeg and mace each, two pounds of clean, dry currants; if the currants are added damp they will make the cake heavy. These cakes can be baked in small shapes, or in a large tin, and cut in squares; they are finer than most other tea cakes. Use if you wish.—*Farmer and Manufacturer*.

—Tomato Catsup: Cut your tomatoes, boil soft and rub them through a wire sieve. To four quarts of pulp add one tablespoonful salt, one teaspoon black pepper, one-half teaspoonful cinnamon, one-half teaspoonful cloves and sugar to suit the taste. When nearly done add a little good strong vinegar. Boil three hours. Bottle and cork tight; seal the corks with sealing wax.—*Indianapolis Sentinel*.

APPLYING MANURE.

An Agricultural Duty Not Fully Understood by Many Farmers.

It ought to be understood that fresh manure is not available fertility, and that if applied so as to come in contact with the plants, and especially with some varieties, it is positively injurious. By this it must not be inferred that all manure must be well rotted before applying. As a general rule, on the farm, the safest plan to follow is to haul out manure whenever there is time to do the work and you have the manure to haul. Generally there will be plenty of places that need the manure and are in a condition to receive the benefit.

As a rule the work should be so planned that the manure can be applied some time before the crop is sown or planted, and a good opportunity afforded to incorporate thoroughly with the soil. If care is taken to mix well with the soil so that only a small per cent. would be liable to come in contact with the plants, usually fresh manure will, at least, do no great harm; but, if applied just before a crop is planted it will be of very little benefit to that crop, because the plant food it contains is not soluble and consequently is not available.

There is always more or less plowing done in the fall, and this enables us to have land in good condition to receive an application of manure, and usually with time enough to get thoroughly incorporated with the soil before a crop will be sown or planted. During the fall and winter there is always more manure than can be hauled out, usually plenty of time for doing the work, and all the manure possible should be hauled out and scattered.

In the garden and truck patch the manure should be thoroughly rotted. Usually it is not a good plan to apply fresh manure, especially if it is coarse, on these places. By plowing ahead, a sufficient amount of well rotted manure can be secured to keep these places rich, and if the ground is thoroughly plowed manure of any kind can be applied to field crops. If thoroughly worked into the soil, which will usually be done in preparing the land for seeding in the spring, whatever damage might result from applying fresh manure and allowing it to come in direct contact with the plants will be obviated.—*Cor. Farm, Field and Stockman*.

PERSONAL AND LITERARY.

—Governor Foraker is a graduate of Cornell.

—Dr. Spencer F. Baird was the author of more than 1,300 books, pamphlets and publications of various kinds.

—The author of a novel relating to the romance of the life of a needlewoman named the book "The History of a Sewer," and was pained to find it catalogued among works on drainage.—*Alta California*.

—Mrs. General T. R. R. Cobb, of Atlanta, Ga., has the original draft of the Confederate Constitution as it came from the committee that drafted it. It is said that Photographer Sarony, of New York City, owns the Constitution as finally adopted by the Confederate Congress.

—The wife of Prof. A. Graham Bell, though perfectly deaf, loses little of the table talk when she and her husband are entertaining a company at dinner. Without uttering a sound the famous inventor telegraphs with his lips nearly every thing that is said, and she cleverly reads them as she would a book.

—Louise Michel, the famous French Communist, is said at last to have crossed the boundary into insanity, or, at least, into aberration. Her publishers are refusing to print her books, her health is broken, and she is, it is said, likely to be left to starve if her pen and tongue fail her. As a rule, except in revolutionary districts, she is now hooted at and ill-treated, it is said, when she speaks.

—Queen Christina, of Spain, is not pretty, her face being too heavy and inexpressive; but she has goodness and tact enough to make up for lack of beauty. She has fairly conquered the affection of the Spanish nation, and she loses no opportunity to do kind deeds. Her last act at Bilbao the other day was to sign a decree commuting to penal servitude the sentence of death upon four convicts lying in the prison there.

—Following so soon after the expensive luxury of a Jubilee celebration, Queen Victoria finds the matrimonial enthusiasm of her maids of honor a cause of annoyance. Victoria, with the liberality which naturally results from the commercial prosperity of her subjects, presents \$5,000 to every maid of honor who marries while an attache of the royal household. Miss Louisa Brownlow, who has been an attendant on the Queen for only four months, is about to enter wedlock and the Queen will feel obliged to give her "a thousand pun." Miss Brownlow is the second maid of honor to marry within six months.—*Boston Transcript*.

HUMOROUS.

—"There!" he said, when he was half way back to the house. "I forgot something my wife wanted, and blest if I remem-ber what it is I forgot." "Let us have tax on luxuries," cried a public speaker, and when he found three carpet tacks in his huckle-berry pie that noon he was satisfied.—*Danville Breeze*.

—"What do you do for a living, Tom?" asks the old college chum. "Do? I don't do any thing; I undo." "Eh?" "I'm a divorce lawyer." "Oh!"—*Durdelle*.

—A muzzled dog trotting down the street attracted the attention of a 5-year-old, who observed: "Gosh! mother, that dog has got his bustle on the wrong end."—*Yonkers Gazette*.

—"A New York man kissed his wife and died," says an exchange. It is a very singular case, indeed. If he had kissed another man's wife and died it would have created no surprise. That frequently occurs.

—"Aw, I say, Clawence, you know how swisky bee-ah makes some fellows?" "Yes, I weccoleet dinking hawf a glaws myself once." "Do you know why it is that it makes a fellow so lively?" "No, Clawence." "Well—ha, ha—it's—ah—it's because of the hops that's in it."—*Washington Critic*.

—"What a lovely cane that is you have there, Mr. De Garmo!" she remarked, as he struggled with a stick nearly as big as himself. "Yaas," he drawled. "The man I bought that from assured me that it was a piece of the genuine north pole. He procured it from the cook of the Greely expedition. Only one of its kind, yer know, in the country."—*Harper's Bazar*.

—Accident Insurance Agent—"How many insurance tickets did you dispose of to-day?" Railroad Ticket Man—"Only one." A. I. A.—"Only one! What fools travelers are!" R. T. M.—"I should say so!" A. I. A.—"Only one accident ticket sold to-day, eh? Well, well! Who bought that?" R. T. M.—"The Superintendent of Construction."—*Tid-Bits*.

—Never Satisfied.—
In the summer we sigh for the spring,
In the summer we pine for the fall,
And so throughout life—ding-a-ling,
We don't know our wishes at all.
But when we obtain what we seek,
And then go and paint the town red,
We as vainly repine for next week,
When the swelling is out of the head.
—*Oil City Blizzard*.

HOME, FARM AND GARDEN.

—Apply hard-wood ashes liberally to soils that lack potash.

—The loss of swarms can be entirely prevented by clipping one of the queen's wings.

—There is always a market for quinces in the large cities, and, if the quality is good, at paying prices.

—Sponge Pudding.—One cup of sugar, one cup of flour, three eggs, one and one-half teaspoonfuls of baking powder. Steam one hour.—*Boston Budget*.

—The peach has been successfully grafted on the hawthorn, on the continent of Europe. The trees are vigorous standards and produce good crops.—*N. Y. Ledger*.

—All perches and nests in the hen-house should be so arranged as to be easily taken outside and saturated with kerosene oil, which is a sure remedy for lice.

—The regularly rural three-legged milking stool, hand painted, is a favorite support for brass or porcelain jars holding growing greenery. The jars hide most of the painting, which, as a rule, is rather an advantage.—*Indianapolis Journal*.

—Corn Meal Muffins.—Beat three eggs lightly; stir them into a pint of buttermilk and a teacup of sour cream, add a teaspoon of soda and a tablespoonful of lard, with meal to make a stiff batter. Bake in hot, well-greased molds.—*N. Y. Observer*.

—The love of horticulture is one of the oldest of cultivated tastes among civilized men. Confucius commends it most highly, as also did the ancient Greeks and Romans. It may well be regarded as a good index of the progress of a people in civilization.

—Cream Sponge Cake.—One cup flour, one-third cup of sugar, one-half cup of cream, two eggs, one-half teaspoonful of soda mixed in flour. Beat the eggs, sugar and cream together, then add the flour, beat lightly and bake at once.—*Farmer and Manufacturer*.

—Our homes are like instruments of music. The strings that give melody or discord are the members. If each is rightly attuned, they will vibrate in harmony; but a single discordant string jars through the instrument and destroys its sweetness.—*Prairie Farmer*.

—When any one of us finds a new or easier way of doing any thing than what we had been accustomed to, or has unusual success in any particular branch of our work, it is our duty as well as our privilege to let our brother farmers know about it, that they may also have the benefit.

—Raw Beef Sandwiches.—Scrape fine a small piece of fresh, juicy, tender raw beef. Season highly with salt and butter. Spread it on thin slices of bread, put them together like a sandwich and cut into small squares or diamonds. This will often tempt an invalid who could not otherwise take raw meat. The sandwiches are sometimes made more palatable by toasting them slightly.—*Indianapolis Journal*.

TWO SAMPLE CASES.

A City Detective's Experience with a Couple of Michigan Farmers.

A Detroit detective drove into the country a dozen miles the other day to make some inquiry about a lost horse, and he came back declaring he would rather take in two big cities than one township while in quest of information. The first farmer he tackled was walking along the road, and the detective asked:

"Seen anything of a stray horse out this way?"

The farmer halted, took a chew of plug, and approached the buggy and cautiously replied:

"Was it yours?"

"No; but I want to find him. Did you say you had seen a stray horse?"

"N-no, not exactly," answered the man, after due reflection. "Is there any reward?"

"I'll give ten dollars."

"Let me see. This is October. July is one, August is two and September is three. It couldn't be the one."

"Which?"

"My son William saw a loose horse in June, but he belonged two miles down the road."

The second farmer stood at his gate, and when questioned he took a minute to think before replying.

"A stray hoss, eh? How did he get away?"

"Got out of a gate."

"Day or night?"

"Night."

"Owner feel bad?"

"He's a bit anxious, of course."

"Got a large family?"

"I don't know."

"Wonder how he'd like to trade for my old white over there?"

"Did you say you had seen the horse?"

"Black one?"

"No; he w s a brown, with white legs."

"Can't say that I have, but I won't be certain. Better call again. Say, who left the gate open for the horse to go out!"—*Detroit Free Press*.